Ozone Biomonitoring on the West Coast

Pacific Northwest Forest Inventory & Analysis

Sally Campbell, PNW-FIA, scampbell01@fs.fed.us; Ron Wanek, PNW-FIA, rwanek@fs.fed.us; Pat Temple, PSW, temple_p@msn.com

Evaluating red elderberry

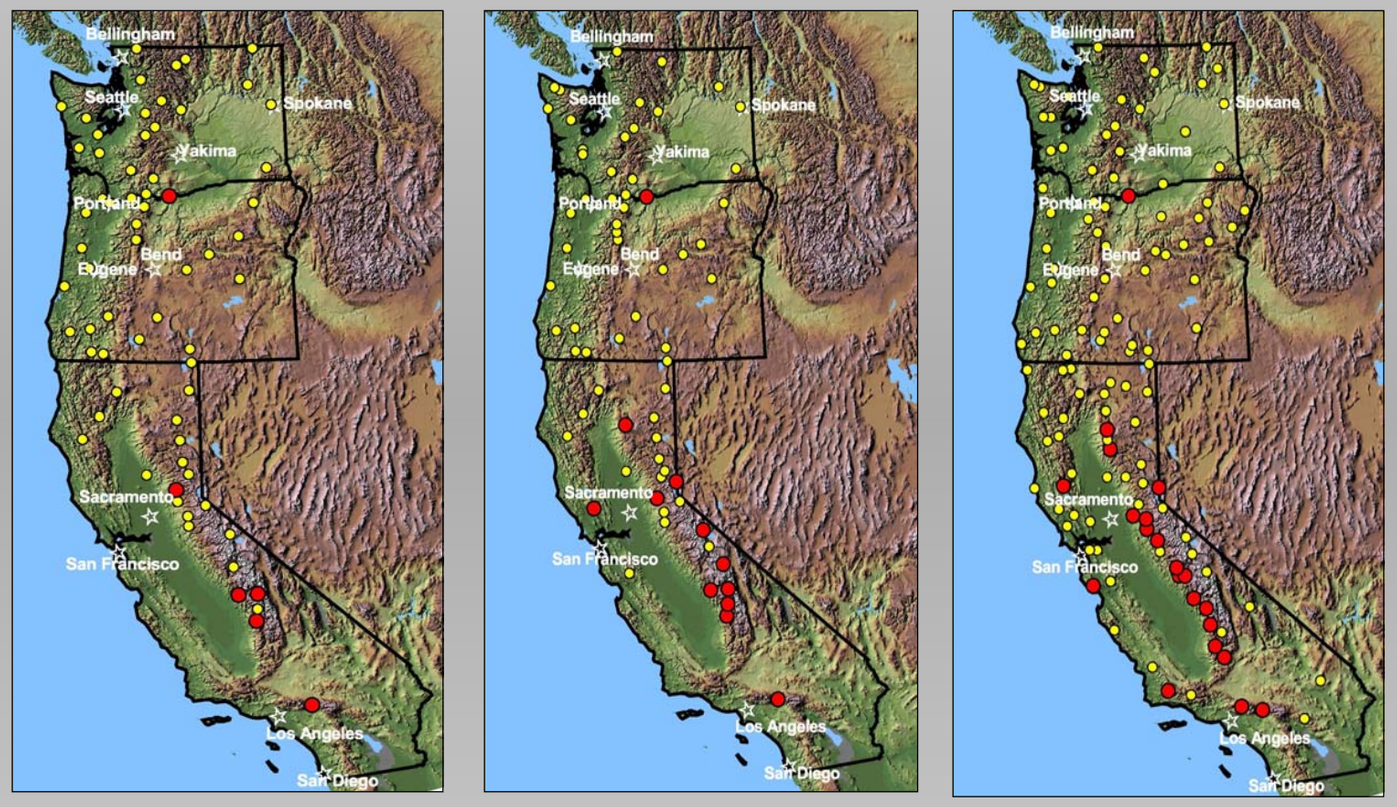
<u>Objective</u>

The FIA ozone biomonitoring program uses ozone sensitive plants to assess air quality and potential impacts to forested ecosystems

<u>Methods</u>

- ❑ Network of monitoring sites across US
- ❑ On west coast: 63 in CA; 35 in OR; 24 in WA
- ❑ Ozone sensitive species evaluated
- ❑ Annual measurements
- ❑ Field monitoring by contractors and state and federal cooperators

2000 2001 2002

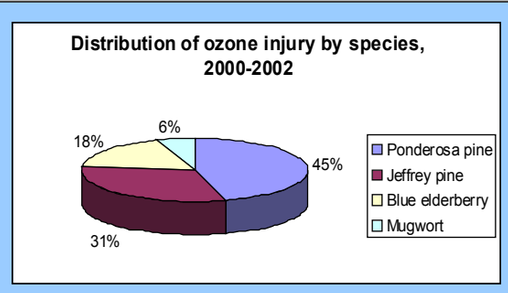


West Coast biomonitoring sites 2000-2002. Red circles indicate positive ozone injury

Ozone injury on ponderosa pine (top), blue elderberry (center), and mugwort (bottom)

<u>West Coast Bioindicator Species</u>

Ponderosa pine	Jeffrey pine
Mugwort	Quaking aspen
Scouler's willow	Skunkbush
Red alder	Snowberry
W. wormwood	Ninebark
Pacific ninebark	Red & blue elderberry
Thinleaf huckleberry	



<u>2002 Results</u>

- ❑ New grid fully implemented in all 3 states
- ❑ Ozone injury in 21 locations:
  - 20 in California
  - 1 in Washington
- ❑ Species injured
  - Ponderosa pine
  - Jeffrey pine
  - Blue elderberry
  - Mugwort
- ❑ Percent biosites with injury by state:
  - California: 32%
  - Oregon: 0%
  - Washington: 4%